IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
Gregory A. Hair *et al.*) Prior Group Art Unit: 1656
)
Divisional of) Examiner: T. STRZELECKA
  Serial No.: 09/721,975)
)
Filed: November 9, 2001)
)
For: NOVEL BONE MINERALIZATION)
     PROTEIN, DNA, VECTORS,)
     EXPRESSION SYSTEMS)

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Before examining this application, please amend it at follows:

IN THE CLAIMS:

Please cancel claims 1-48, and enter new claims 49-63:

--49.   A method of inducing bone formation comprising transfecting osteogenic precursor cells with an isolated nucleic acid molecule comprising a nucleotide sequence encoding LIM mineralization protein, wherein said nucleic acid molecule is SEQ ID NO: 2, SEQ ID NO: 22, or SEQ ID NO: 33.

50.   The method of claim 49, wherein the isolated nucleic acid molecule is in a vector.

51.   The method of claim 50, wherein the vector is an expression vector.

52.   The method of claim 51, wherein the vector is a plasmid.

53.   The method of claim 51, wherein the vector is a virus.

54.   The method of claim 53, wherein the virus is an adenovirus.

55.   The method of claim 53, wherein the virus is a retrovirus.

56.   The method of claim 49, wherein the osteogenic precursor cells are transfected *ex vivo*.

57.   The method of claim 49, wherein the osteogenic precursor cells are transfected *in vivo* by direct injection of the isolated nucleic acid molecule.

58.   The method of claim 49, wherein the LIM mineralization protein is HLMP-1 (SEQ ID NO: 10).

59.   The method of claim 49, wherein the LIM mineralization protein is HLMP-1s (SEQ ID NO: 34).

60.   The method of claim 49, wherein the LIM mineralization protein is RLMP (SEQ ID NO: 1).

61.   The method of claim 57, wherein the isolated nucleic acid molecule is in a vector selected from the group consisting of a plasmid and a virus.

62.   The method of claim 61, wherein the vector is a plasmid, which plasmid is directly injected into muscle tissue.

63.   A method of stimulating production of an osteogenic soluble factor by an osteogenic cell, comprising:

(a)   transfecting the osteogenic cell with an isolated nucleic acid molecule comprising a nucleotide sequence encoding LIM mineralization protein; and

(b)   overexpressing the isolated nucleic acid molecule, wherein said nucleic acid molecule is SEQ ID NO: 2, SEQ ID NO: 22, or SEQ ID NO: 33.--

REMARKS

With entry of this Amendment, claims 49-63 are pending in the application. The claims substantially correspond to claims 23-34, 40, 47, and 48 in grandparent application no. 09/124,238. The claims in that application were subject to a restriction requirement, wherein the examiner asserted that the claims constituted eight separate and distinct inventions. Application are prosecuting the claims of group V in this application.

The computer readable form of the Sequence Listing in this application is identical with that of grandparent application no. 09/124,238, filed July 29, 1998, issued as U.S. Patent No. 6,300,127 on October 9, 2001. In accordance with 37 C.F.R. § 1.821(e), please use the computer readable form submitted on July 29, 1998, in the grandparent application as the computer readable form for this application. It is understood that the U.S. Patent and Trademark Office will make the necessary changes in the application serial number and filing date for the computer readable form that will be used for this application. A paper copy of the sequence listing was included in the application as originally filed.

The undersigned certifies that the content of the paper copy of the Sequence Listing and the computer readable form are the same.

Please grant any extensions of time required to enter this amendment and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: November 9, 2001   By: _Steven P. O'Connor_____

Steven P. O'Connor
Reg. No. 41,225

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7

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Trp Val Leu Ser Ile Asp Gly Glu Asn Ala Gly Ser Leu Thr His Ile
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Asn Lys Thr Ala Arg Pro Phe Gly Ala Pro Pro Pro Ala Asp Ser Ala
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